10 Sep 1992

RH0NR-E

METER, RADIATION HAZARD

1. GENERAL. This procurement requires a true rms, isotropic, broadband, hand-held, radiation hazard meter.

2. CLASSIFICATION. Type II, Class 3, Style EP, and Color R in accordance with MIL-T-28800 for shipboard applications.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of operation within CW fields or compound CW and pulse modulated fields within the minimum accuracies and limits specified below.

3.1 Electric field.

3.1.1 E field frequency range. 300 kHz to 40 GHz.

3.1.2 E field measurement range. 1 mW per square cm to 100 mW per square cm.

3.2 Magnetic field.

3.2.1 H field frequency range. 300 kHz to 300 MHz.

3.2.2 H field measurement range. 1 mW per square cm to 100 mW per square cm.

3.3 Accuracy. ±3 dB or better excluding elipticity and isotropic errors. Use of calibration charts or other correction methods are acceptable to meet this requirement.

3.4 Response time. Selectable 1 second and 3 seconds.

3.5 Recorder output. The equipment shall provide a dc voltage proportional to the meter indication for use with a recorder.

3.6 Peak hold control. A selectable mode shall be provided that will indicate and hold the maximum value of the field intensity until reset.

3.7 Power density alarm. An audible power density alarm shall be adjustable for any percentage of full scale.

3.8 Probes. The equipment shall be provided with no more than two probes to cover the required E field frequency and measurement ranges (see 3.1.1 and 3.1.2) and two probes to cover the required H field frequency and measurement ranges (see 3.2.1 and 3.2.2).

3.8.1 Maximum power. E field measurements: 1W per square cm for CW and 300W per square cm for peak power. H field measurements: 300 mW per square cm for CW and 300W per square centimeter for peak power.

3.9 Display. An analog meter which displays in mW per square cm shall be provided.

3.9.1 Display resolution. 5% or less of full scale.

3.10 Battery check. An indication of battery condition shall be provided.

3.11 Operational check source. The equipment shall be provided with an RF source used to determine proper operation of the system.

3.12 Transit case. One transit case shall be provided which shall be capable of storing all equipment.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal and dc internal power source requirements are invoked as detailed below.

4.1.1 Nominal power source. Operation at 400 Hz is not required. Maximum power consum ption: 60W.

4.1.2 DC internal power source: Internal batteries and charger are required. Minimum operating time shall be 40 hours following a maximum recharge time of 40 hours.

4.2 Weight. 20 kg (44 lb) maximum including transit case, 4.5 kg (10 lb) maximum when configured for operation.

4.3 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. Requests for approving the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.